AIR CONDITIONER ASSEMBLY, MAINTENANCE AND USE INSTRUCTIONS

Model Number: SW2000PLUS

Serial Number:_____

GENERAL WARNINGS

When installing, be sure to carefully follow the instructions given in this manual. The manufacturer declines all responsibilities for damage to equipment or people caused by non-standard system installations or modifications.

NOTES

When indicated, the right side of the vehicle is the “passenger side” and the left side of the vehicle is the “drivers side”.

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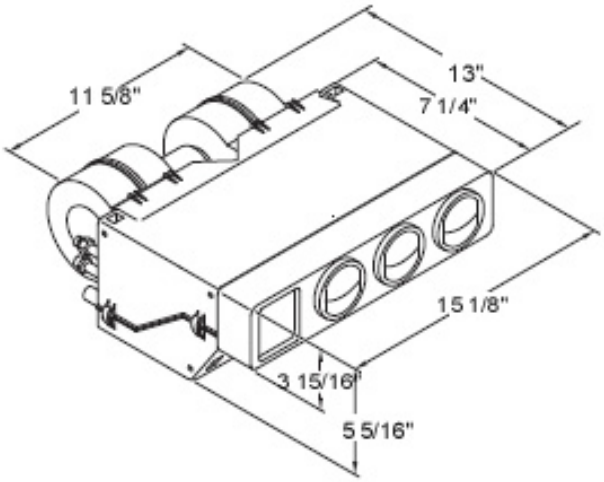
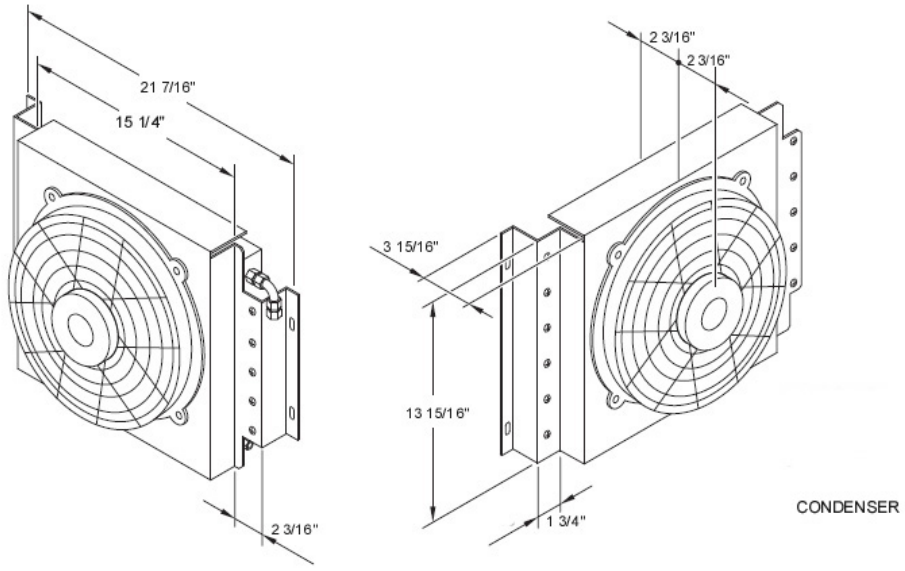
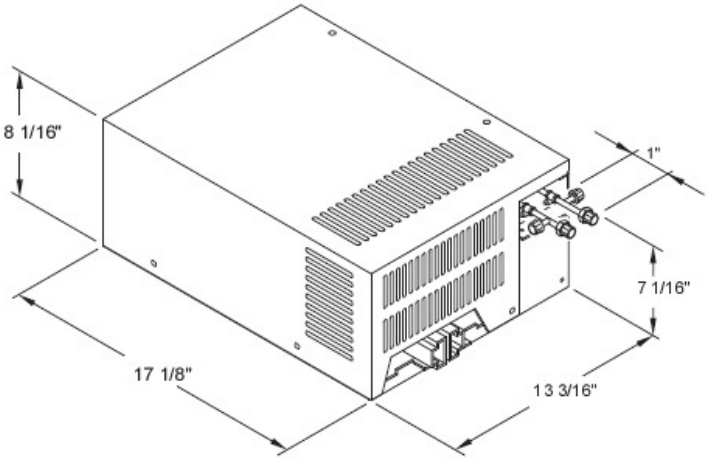
SLEEPING WELL ARCTIC PLUS



EVAPORATOR



CONDENSER



COMPRESSOR BOX

Qty	Description
EVAPORATOR	1
CONNECTION KIT	1
CONDENSER	1
CONDENSER MOUNTING KIT	1
COMPRESSOR BOX	1
COMPRESSOR BOX MOUNTING KIT	1

TECHNICAL DATA

Cooling Capacity: Up to 6100 BTU

Power Consumption: Up to 62A (12V)

Functioning with Engine Off:

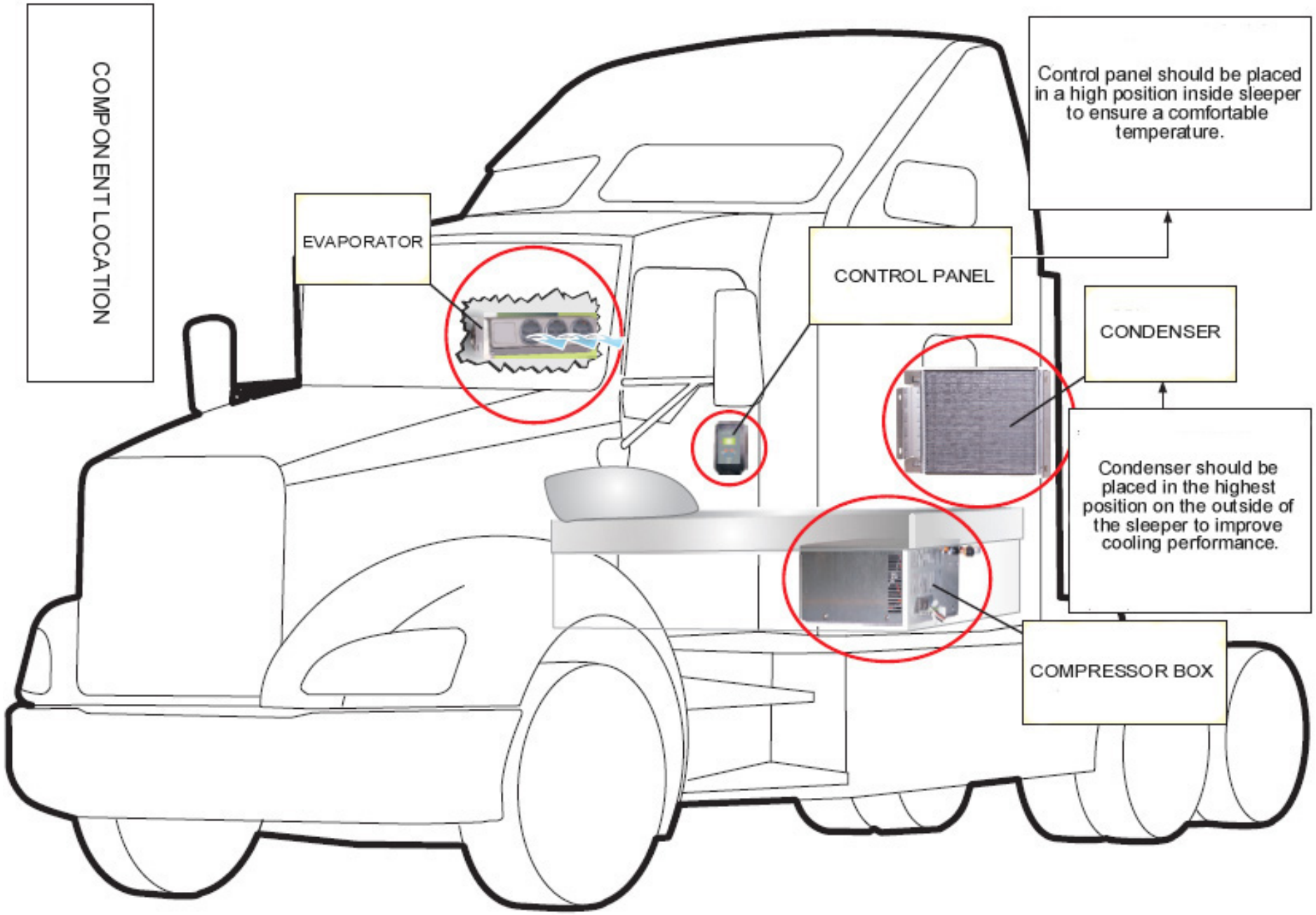
Voltage: 12V DC
Refrigerant: R-134A
6 Ventilation Speeds
Electronic temperature control with digital control panel
Auto – low voltage Shutdown (Battery Saver)

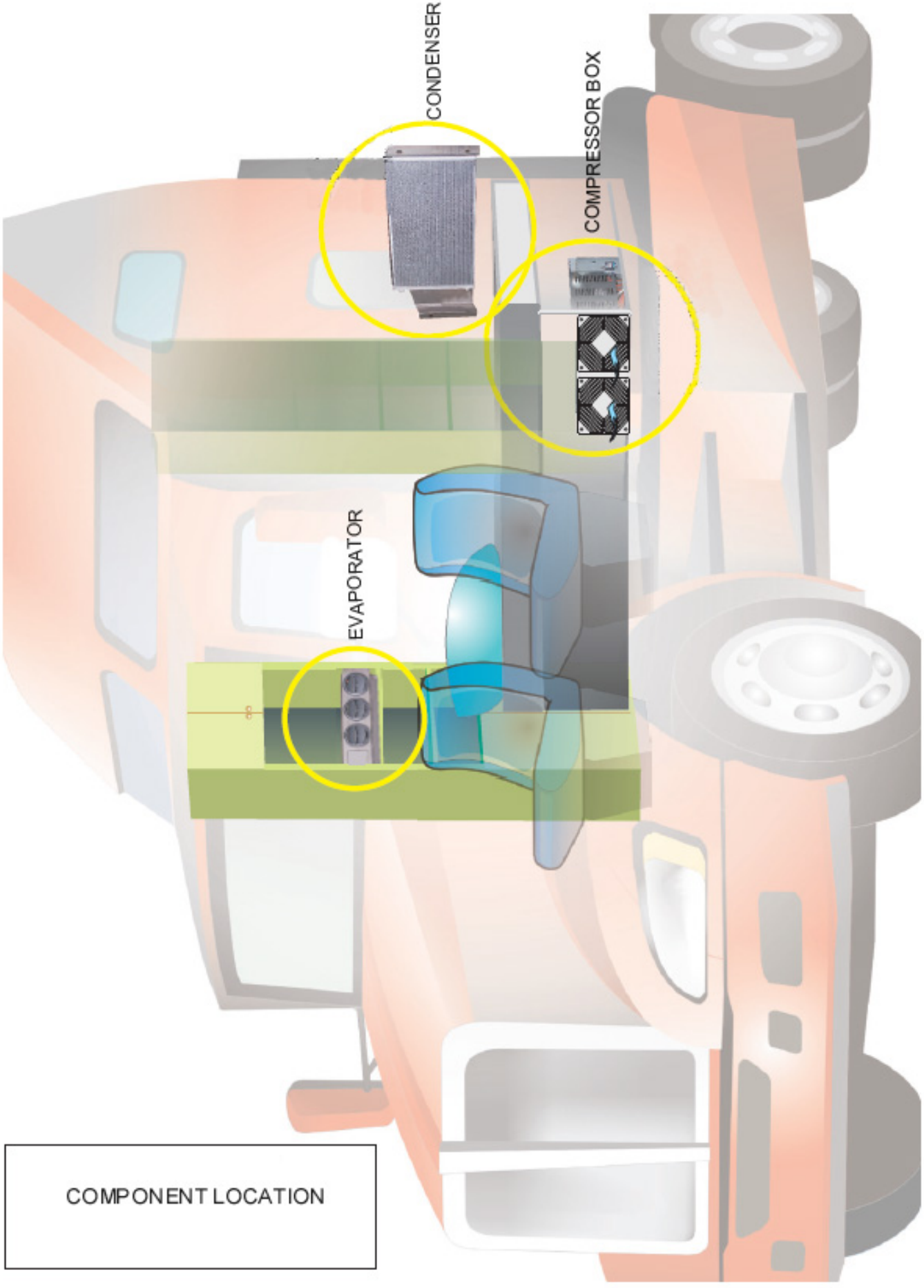
Evaporator Weight: 11.5 Lbs
Condenser Weight: 15.9 Lbs
Compressor Box Weight: 54.2 Lbs

RECOMMENDED MINIMUM ALTERNATOR REQUIREMENTS FOR PROPER AUXILIARY BATTERY RECHARGE

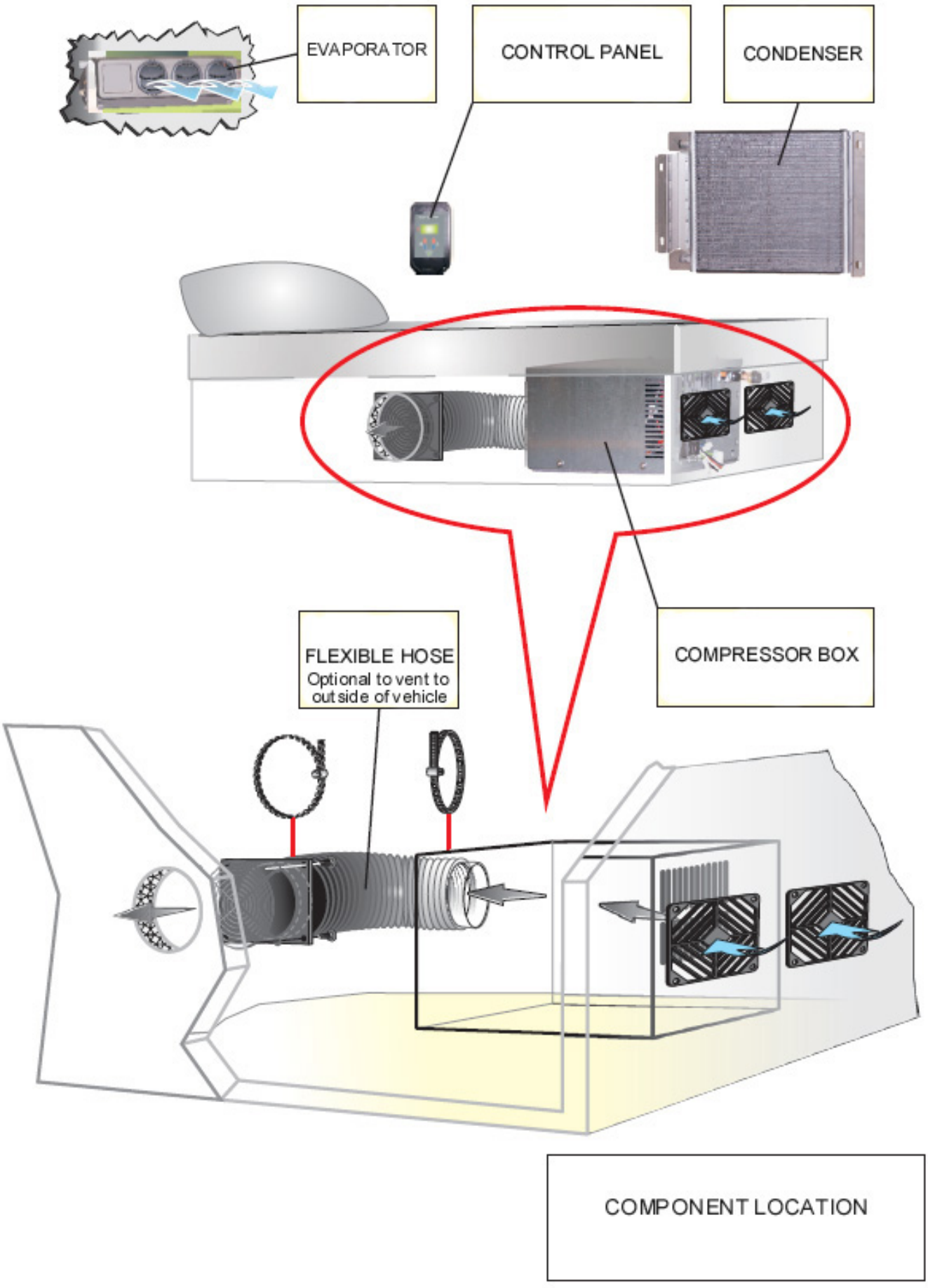
It is recommended that a minimum of 180 amp alternator be used to properly charge the (4) auxiliary batteries. Using less than 180 amp alternator will NOT provide enough amperage to completely charge auxiliary batteries, resulting in reduced run times of the Sleeping Well System due to improperly charged auxiliary batteries.

COMPONENT LOCATION

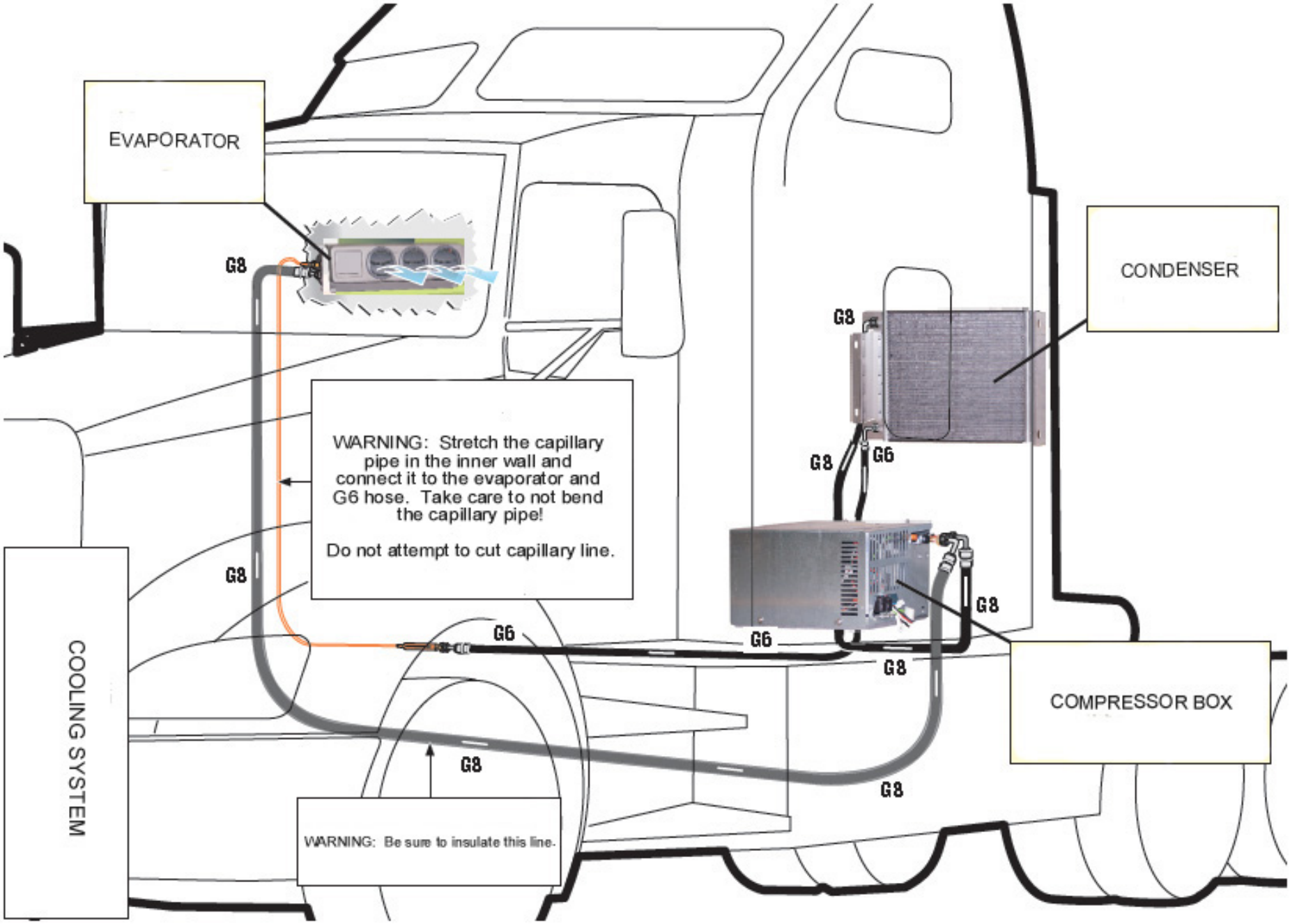

EVAPORATOR
CONTROL PANEL
CONDENSER
COMPRESSOR BOX
Control panel should be placed in a high position inside sleeper to ensure a comfortable temperature.
Condenser should be placed in the highest position on the outside of the sleeper to improve cooling performance.



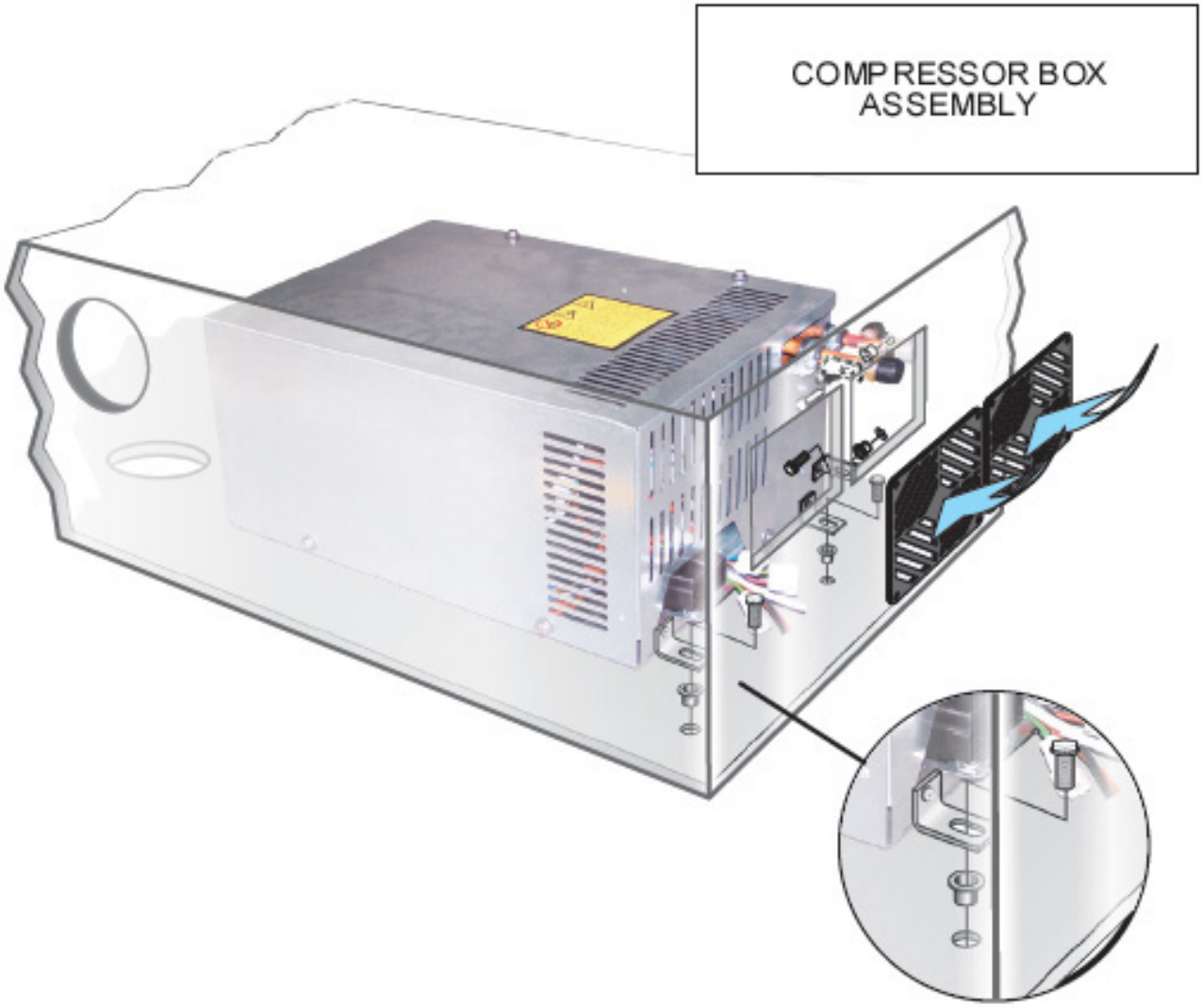
COMPONENT LOCATION

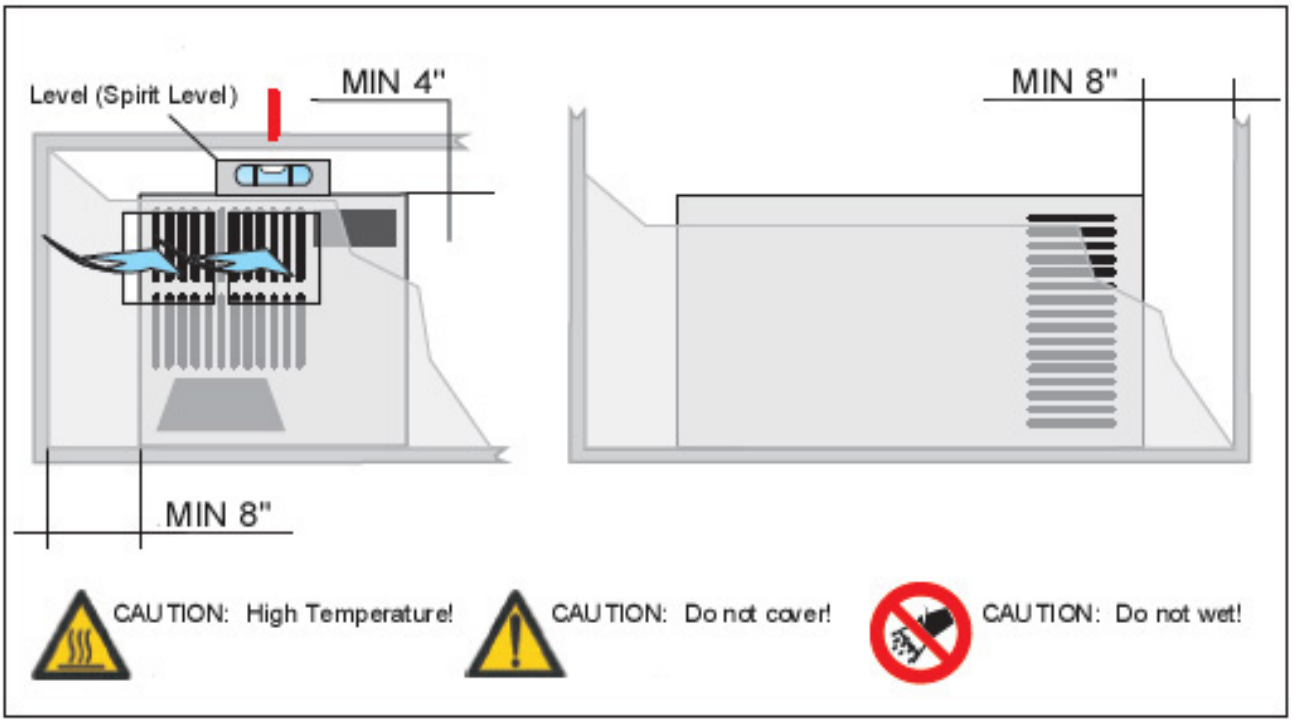


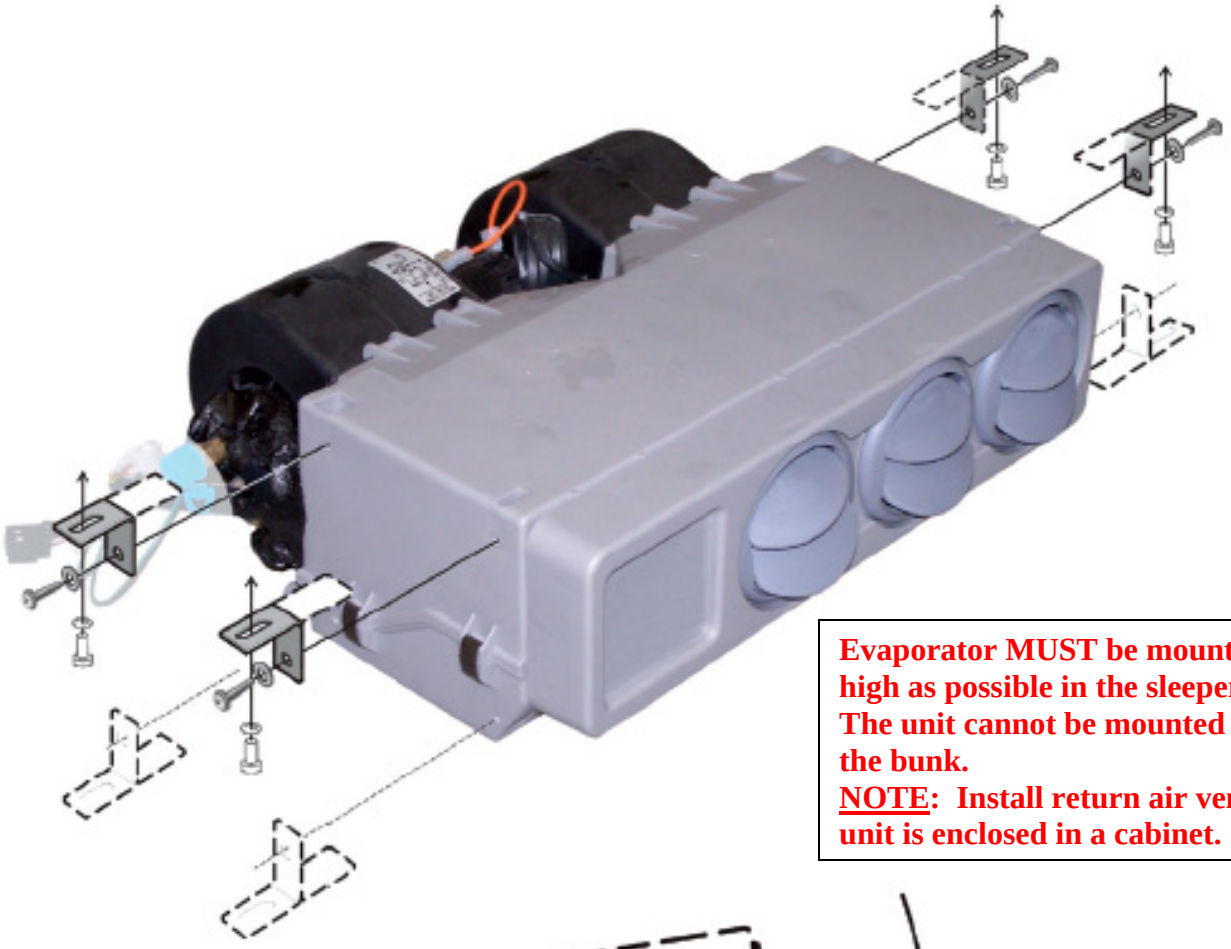
COMPONENT LOCATION


EVAPORATOR
CONDENSER
G8
G6
WARNING: Stretch the capillary pipe in the inner wall and connect it to the evaporator and G6 hose. Take care to not bend the capillary pipe!
Do not attempt to cut capillary line.
COOLING SYSTEM
COMPRESSOR BOX
WARNING: Be sure to insulate this line.

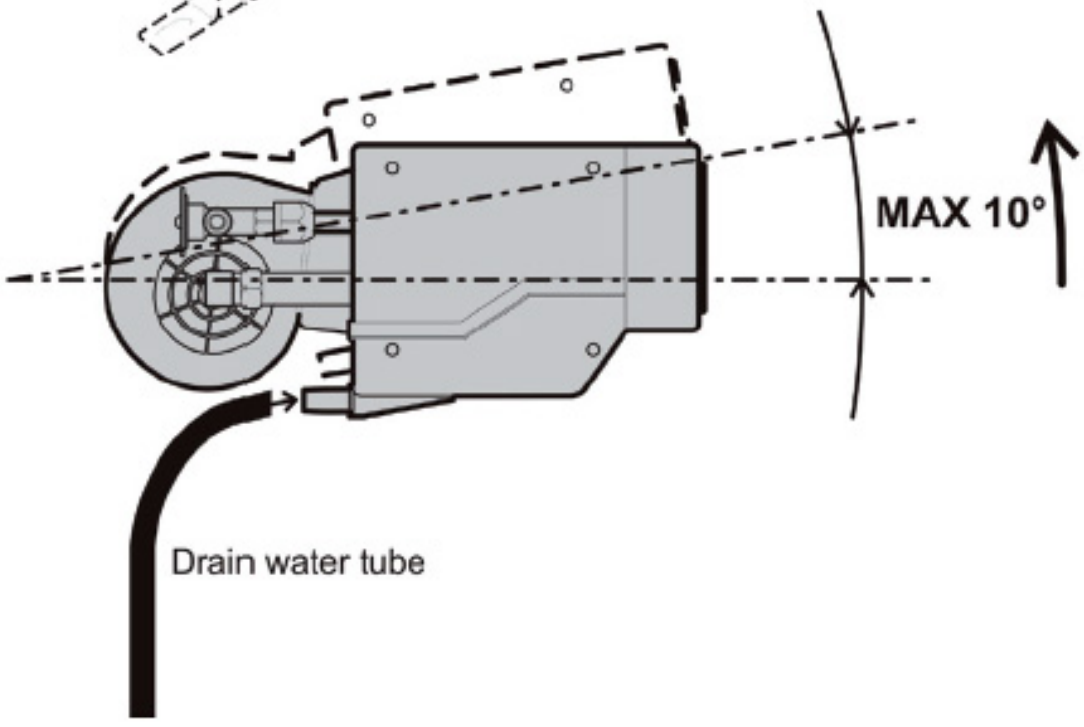
ELECTRICAL CONNECTIONS


COMPRESSOR BOX
ASSEMBLY

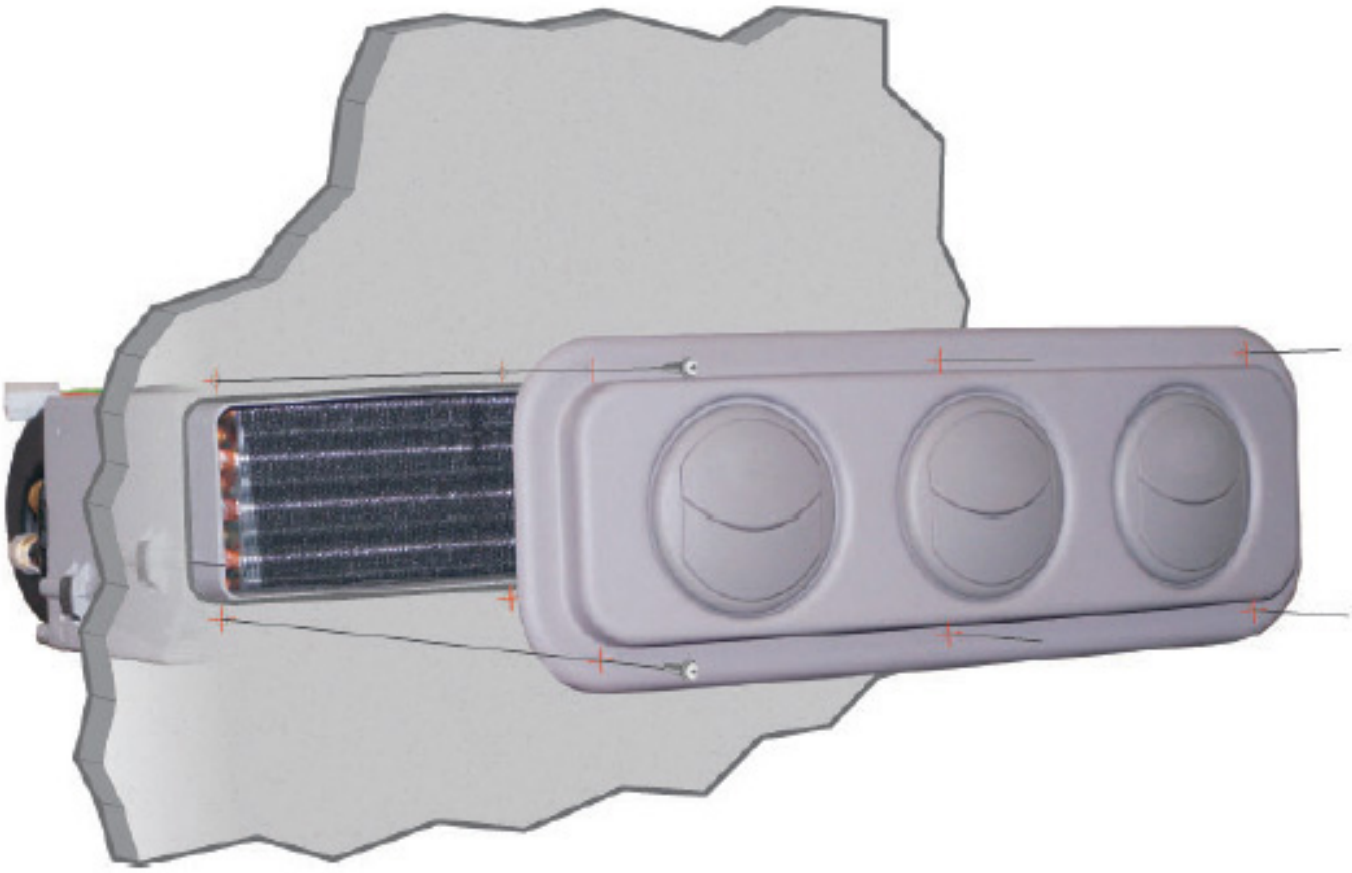

Level (Spirit Level)
MIN 4"
MIN 8"
MIN 8"
CAUTION: High Temperature!
CAUTION: Do not cover!
CAUTION: Do not wet!



Evaporator MUST be mounted as high as possible in the sleeper area. The unit cannot be mounted under the bunk.
NOTE: Install return air vents if unit is enclosed in a cabinet.



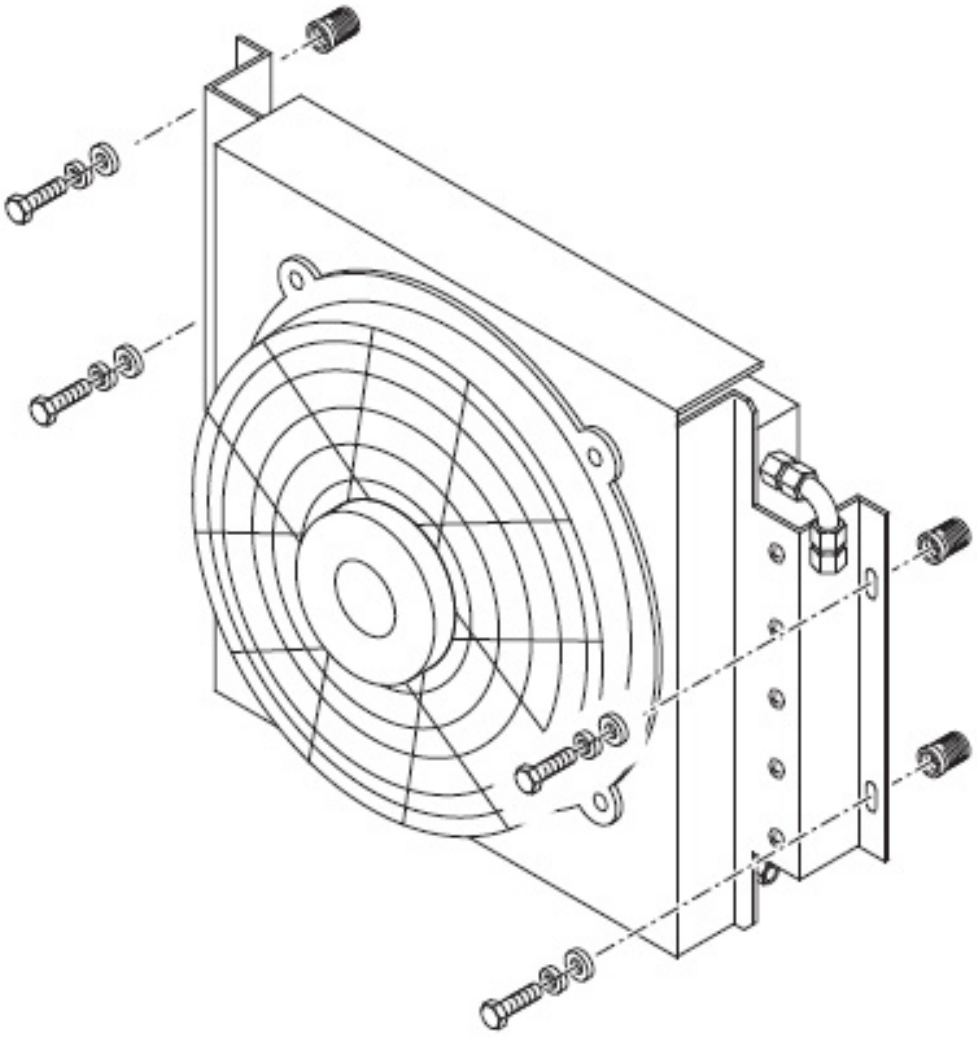
EVAPORATOR INSTALLATION

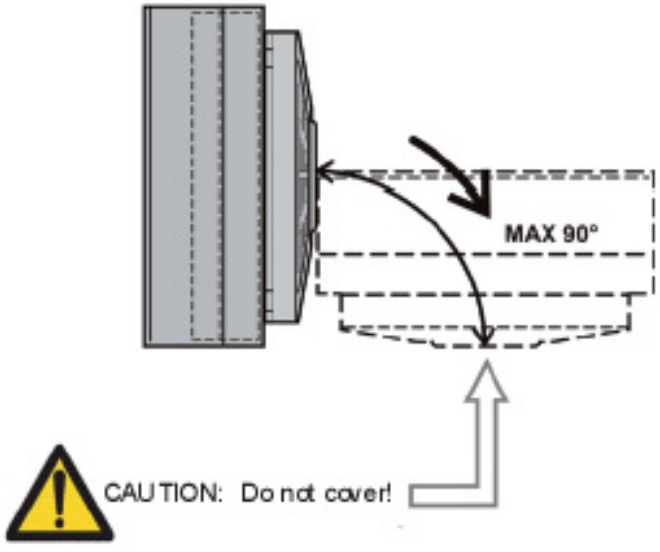


OPTIONAL
TO INSTALL EVAPORATOR INSIDE A WALL, USE THE OPTIONAL "IN-WALL AIR DIFFUSER" AVAILABLE FROM YOUR DEALER

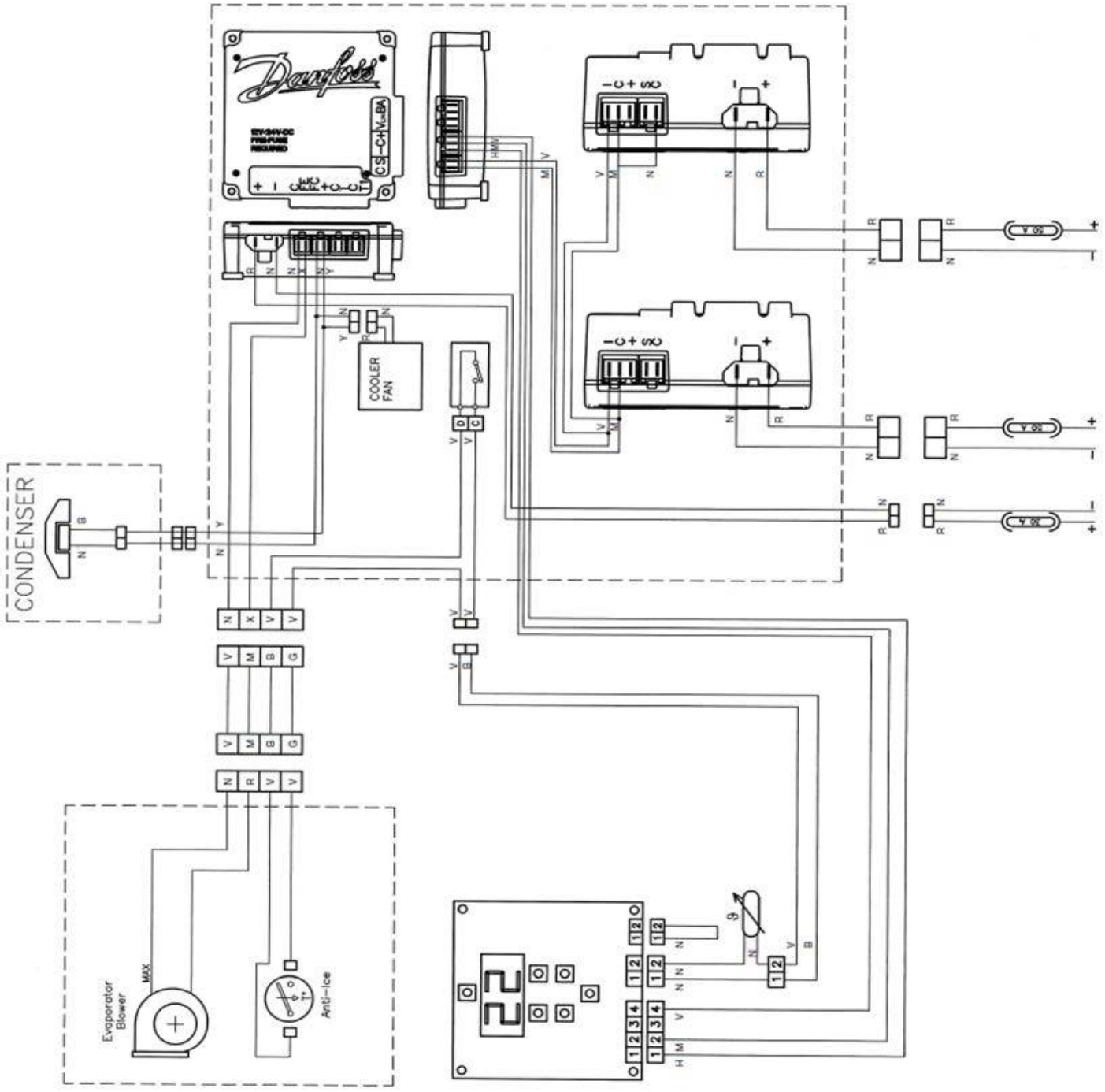
AIR DIFFUSER INSTALLATION

CONDENSER ASSEMBLY



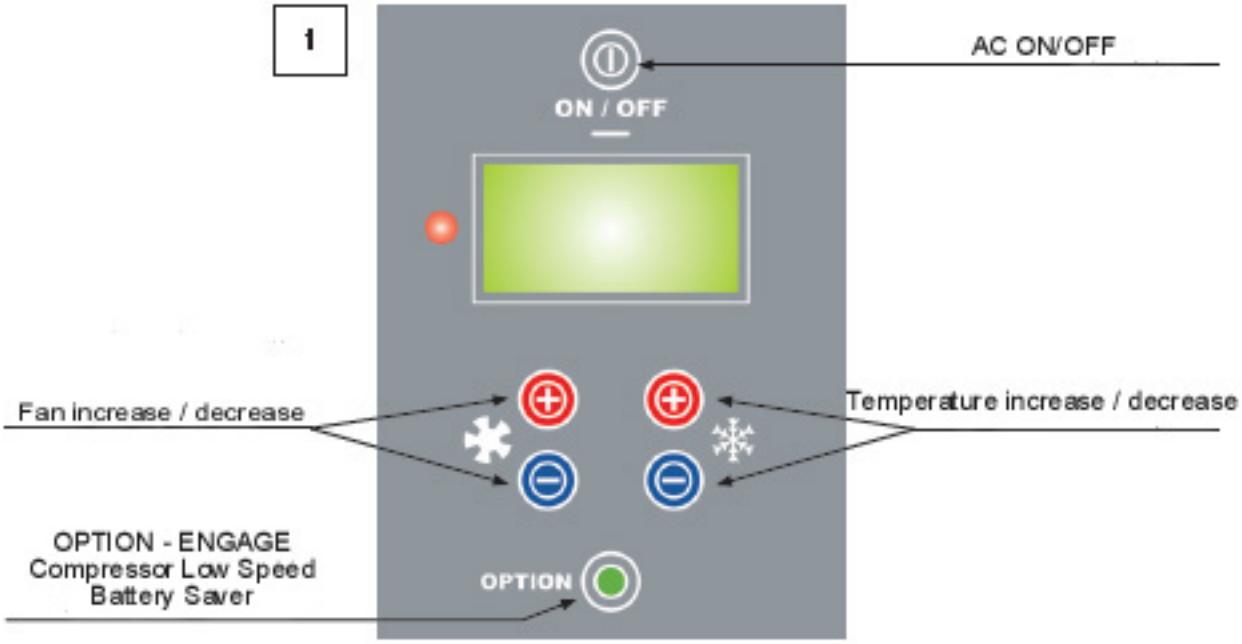


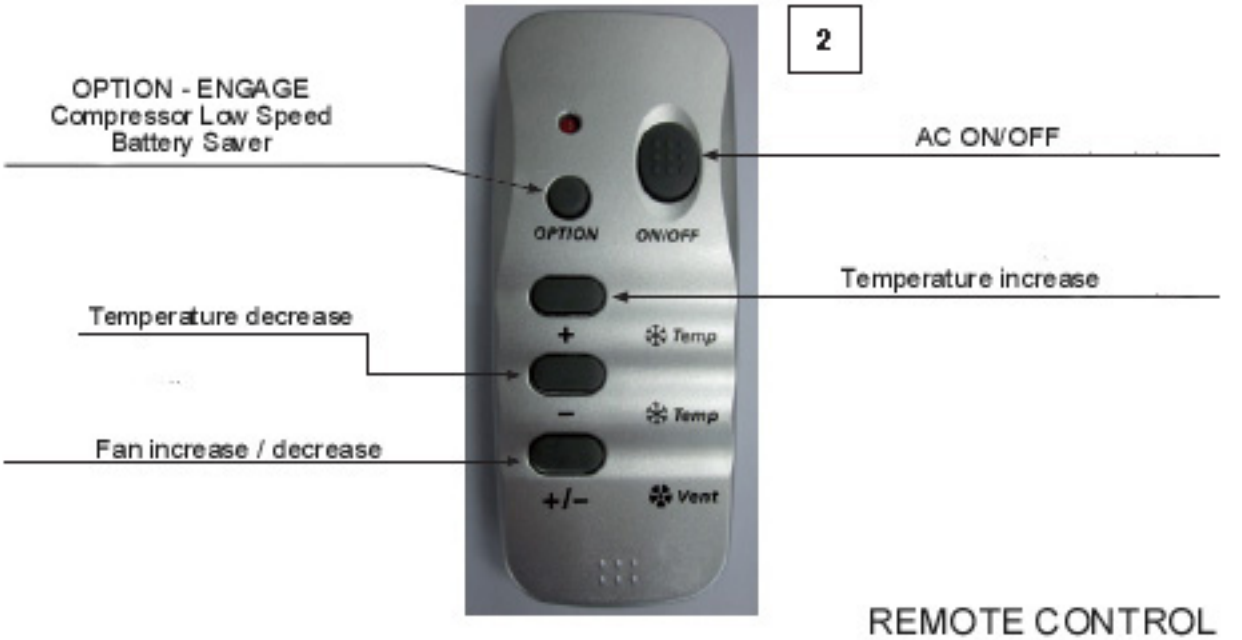
ELECTRIC DIAGRAM



COLOR	CODE		COLOR	CODE		COLOR	CODE
B	WHITE		M	BROWN		V	GREEN
G	YELLOW		N	BLACK		X	WHITE/RED
H	GRAY		R	RED		Y	RED/BLACK

CENTRAL CONTROL UNIT



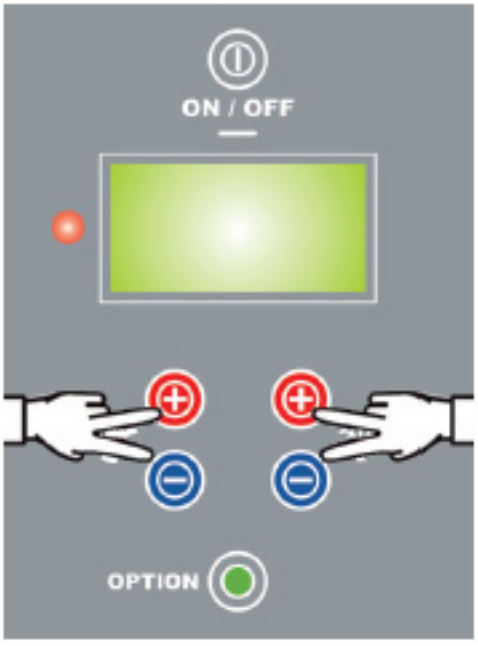


REMOTE CONTROL

3

Compressor Low Speed
Battery Saver

4



TEMPERATURE UNIT
Select C` or F`

All 4 buttons must be pressed at the same time

OPERATION / CONTROL PANEL

"SLEEPING WELL ARCTIC PLUS" CAN BE USED BY ACTIVATING THE AIR CONDITIONING OR THE FAN FUNCTION ONLY.

CONDITIONING (AC)

T_0: TEMPERATURE SET BY USER
T_{amb}: AMBIENT TEMPERATURE DETECTED BY PROBE
V_1: COMPRESSOR ROTATION SPEED (2500 Rpm)
V_2: COMPRESSOR ROTATION SPEED (4000 Rpm)

ON/OFF

When the system is OFF, press the **ON/OFF button (see fig. 1)** for more than one (1) second to turn the A/C system ON. The A/C system will start in STANDARD MODE (**V_1).**
When the system is ON, press the ON/OFF button for more than two (2) seconds to turn the A/C system OFF.
When the system is turned ON, the ventilation fan automatically starts thirty (30) seconds later.
The display always shows the temperature **set by the user (T_0)**.
The temperature **can be set by the driver is between 20°C/68° and 28°C/84.4°F**.

OPTION

When this feature (button) is used, it will hold the compressor system at low speed "**V_1**". This is a battery saving feature that will allow the system to operate for longer periods of time when required.

VENTILATION (FAN)

If the fan increase or reduction buttons (**VENT + or VENT -)** are pressed when the system is switched off, only the evaporator fan is activated, with the choice of 6 different speeds, shown on the central control unit display.

To switch off the fan it is necessary to set the value 0 on the central control unit display, using the fan speed reduction button (**VENT -**).

AUTO-LOW VOLTAGE SHUTDOWN (AC / FAN)

The Auto-Low voltage shutdown function turns OFF the power at **10.8V D.C.**
In this case, the system (AC or VENT) shuts down, also deactivating the fan function and the message ***E1*** **appears** on the display and the **battery** symbol **lights up**.

When the power returns, for **at least 10 seconds**, to the value of **11.7V D.C.**, the system is automatically reactivated, starting up the condenser fan, followed by the evaporator fan and compressor.

ERRORS SHOWN ON THE DISPLAY (AC / FAN)

Description	Message	Symbol
Battery Voltage (The battery-saver device has cut out. Voltage has fallen below the value of 10.8V D.C.)	**E1**	
Fan Over Current Cut-Out (The condenser or evaporator fan overloads the central control unit above the limit allowed. Possible cause: short circuit or blockage of fan rotation.)	**E2**	
Compressor Locked (The rotor is locked or the pressure inside the cooling circuit is too high.)	**E3**	
Minimum Compressor Rotation Speed (If the cooling circuit is overloaded, the compressor cannot maintain the minimum rotation speed.)	**E4**	
High Temperature on the Central Control Unit (If the cooling circuit is overloaded or the ambient temperature is high, the central control unit signals this situation.)	**E5**	
Communication Error (There is no communication between the display and the central control unit.)	**E6**	
Temperature Sensor (Temperature sensor is in short circuit or the wiring of the sensor are not connected and thermostat switched off the system. System is without gas and pressure valve open the electric contact switching off the system.)	**E7**	

TEMPERATURE UNIT

When the system is switched off, it is possible to change the temperature unit, choosing between **°C (Celsius) or °F (Fahrenheit)**.

Press **VENT + , VENT - , TEMP +** and **TEMP -** , buttons simultaneously to show the present unit (°C) on the display, and the **temperature** symbol will **light up (see fig.4)**.

Quickly press **VENT +** or **VENT –** to select the unit required.

REMOTE CONTROL

The remote control regulates both the conditioning function and the fan function.
Using the remote control it is possible to:

- **Switch the system on and off**
- **Regulate the temperature**
- **Regulate the fan speed**
- **Engage the OPTION function**

REFRIGERANT FILLING PROCEDURE

Before charging the system, (by means of the charge fittings on the condenser unit and compressor block) run vacuum cycle for 30 minutes.

Disconnect the high-pressure attachment.

Charge the system with **17.6oz (500 grams) R-134a** into the circuit through the low-pressure attachment.

Switch the Sleeping Well Arctic Plus on for 10 minutes before disconnecting the charging hose(s).

When the refrigerating charge cycle is over, check for leaks and proper operation of the system.

WARNING: Compressors use POE oil. DO NOT mix PAG oil from previous systems when charging.

ATTENTION: If you cut the G6 refrigerant hose (kit comes with 13ft of G6 hose), consider that for every 3 feet cut, you have to reduce the charging by 1.4oz (MINIMUM CHARGE = 14.1oz).

SYSTEM MAINTENANCE				
	Condenser	**Compressor Box**	**Evaporator**	**Batteries (Accessory)**
Spring	*Visual Inspection*	*Visual Inspection*	*Visual Inspection*	*Visual Inspection*
Summer				
Fall	*Visual Inspection*	*Visual Inspection*	*Visual Inspection*	*Visual Inspection*
Winter				

Condenser - Visual Inspection
- Core should be clear/free of dirt and debris.
- Bracket mounting bolts are tight and secure to rear exterior sleeper wall.
- Freon High/Low connections are not damaged and are secure.
- Electrical connection is not damaged and is secure.
- WARNING! Never use high pressure washing system on condenser.

Compressor Box - Visual Inspection
- Hold down bolts are tight and secure to floor.
- Freon High/Low connections are not damaged and are secure.
- Electrical connections are not damaged and are secure.
- Cooling Duct is connected, not damaged.

Evaporator - Visual Inspection
- Mounting bolts are tight and secure.
- Freon High/Low connections are not damaged and are secure.
- Electrical connections are not damaged and are secure.

Batteries - Visual Inspection
- Mounting bracket/hold down is secure.
- Terminal connectors are clear of corrosion and secure.

SYSTEM TEST

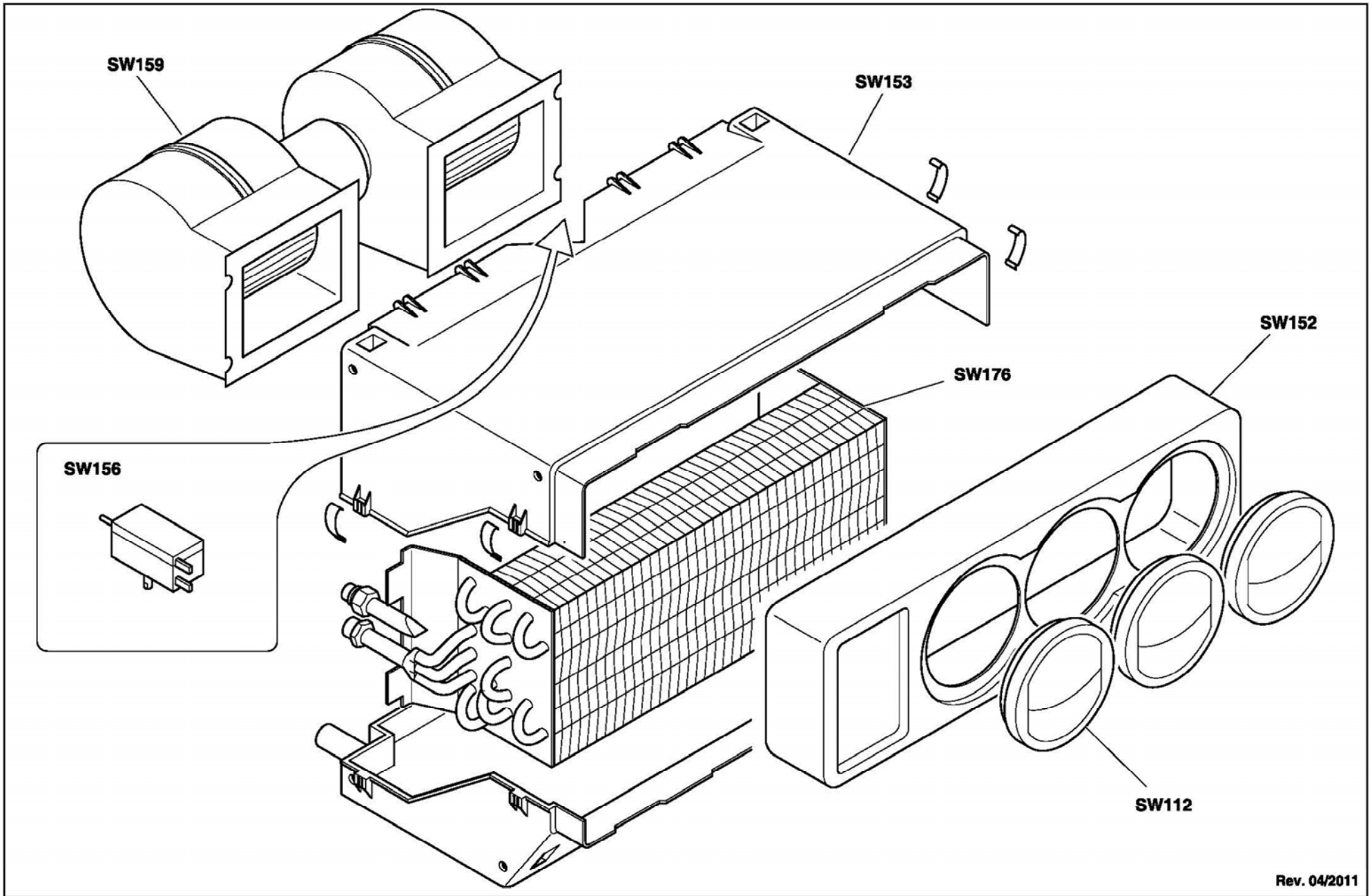
If any concerns are found during the Visual Inspection, please refer to the Installation Guide for service recommendations. Once the above System Maintenance has been completed and any concerns are corrected, start and operate the SW system for 30 minutes. Verify the Condenser, Compressor Box and Evaporator fans are operating. Check the evaporator output to ensure system is producing cold air!

GENERAL OPERATION

When operating the air conditioning system, the windows and doors of the vehicle should be closed for best sleeper cooling. Pre-cooling the cab will extend run time and battery life.

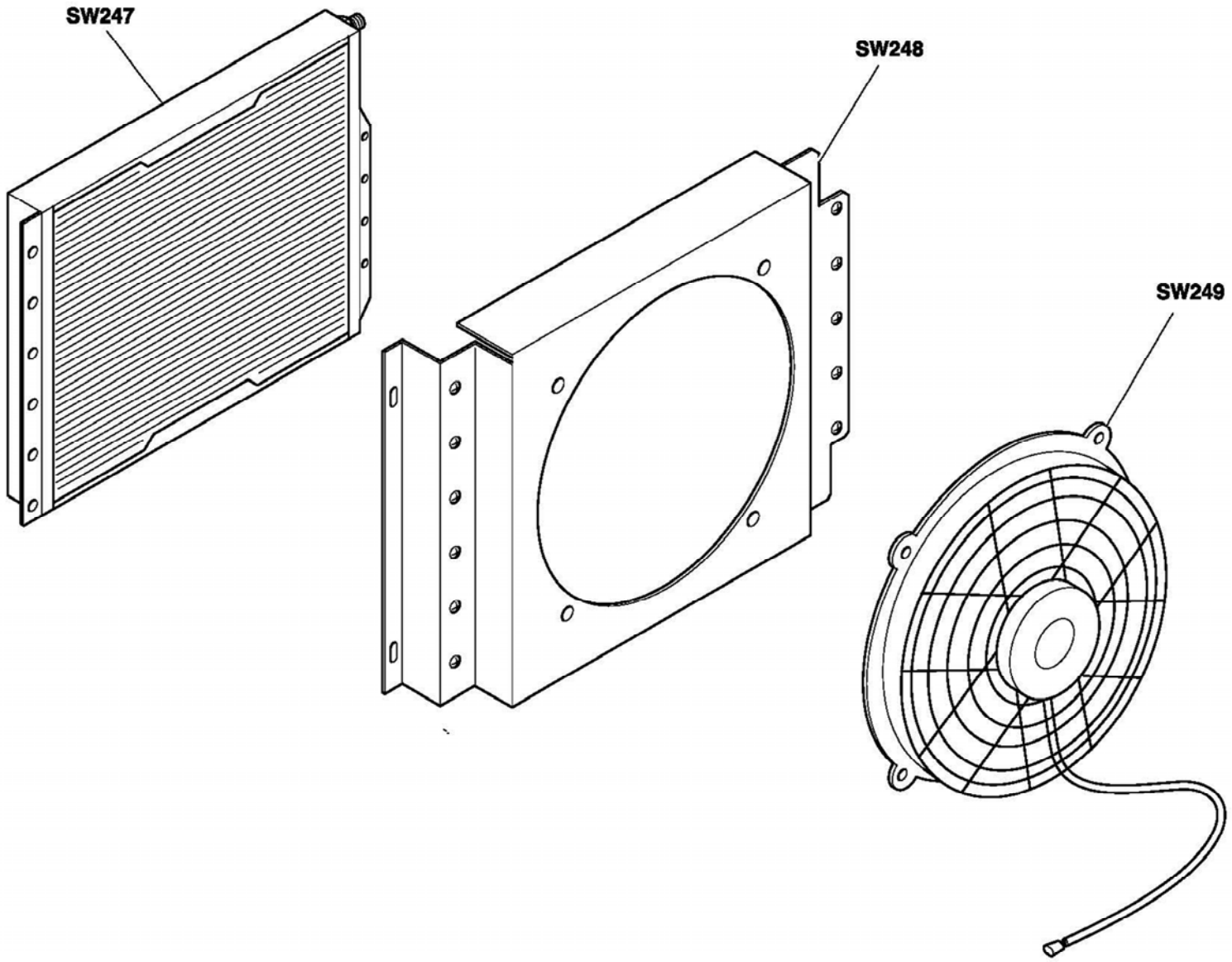
When the system is not in use for long periods of time, the SW system should be run and operated for 30 minutes during standard truck in-shop maintenance. This will lubricate moving components and prevent them from drying out due to long periods of inactivity.

Service Parts Breakdown



SLEEPING WELL ARCTIC PLUS 12V - SW251 - EVAPORATING UNIT

SPARE PARTS



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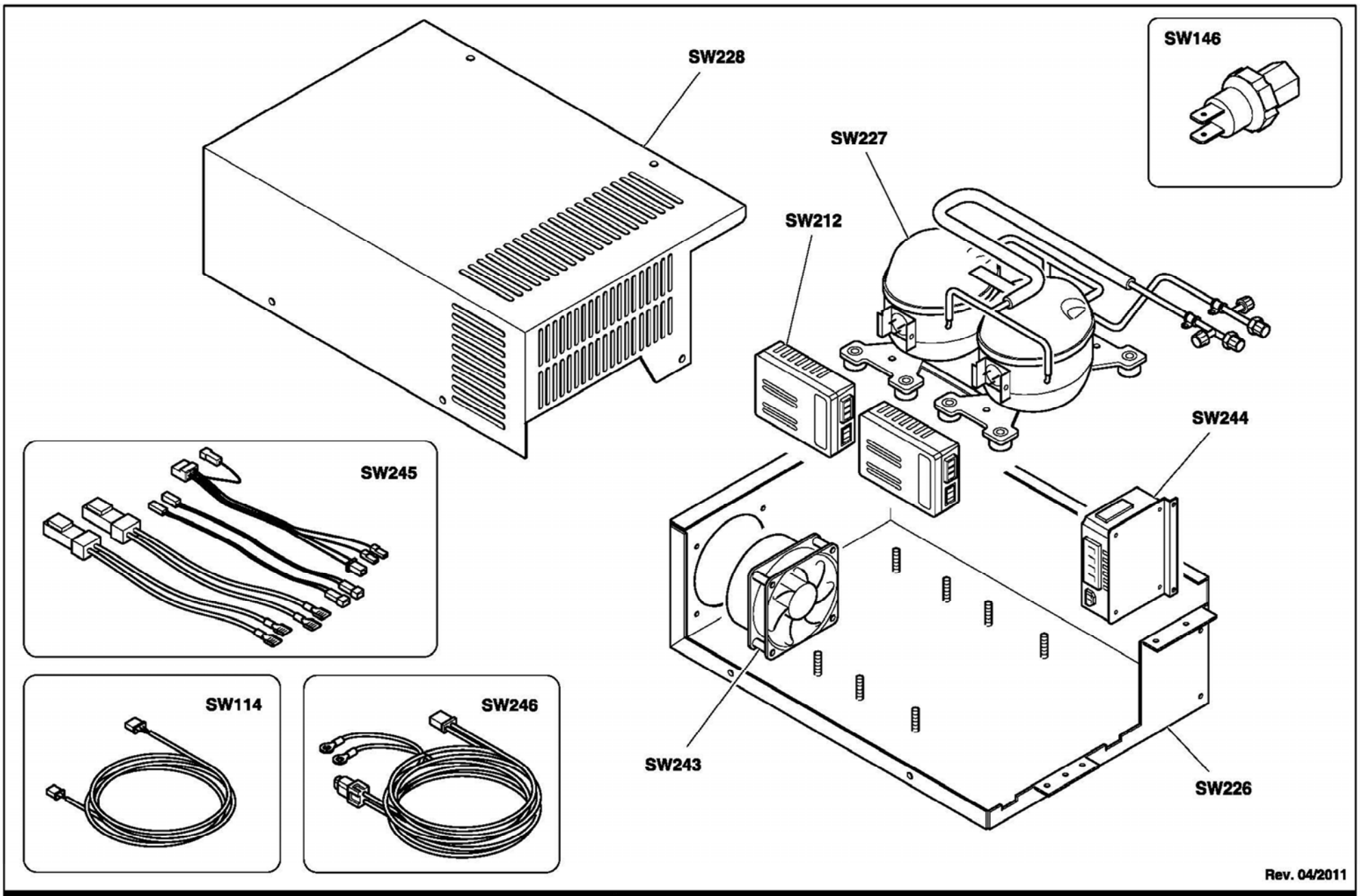
SLEEPING WELL ARCTIC PLUS 12V - SW250 - CONDENSER UNIT

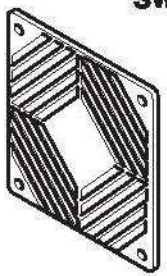
SPARE PARTS



SLEEPING WELL ARCTIC PLUS 12V - SW252 - COMPRESSOR UNIT

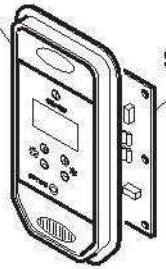
SPARE PARTS

SW242

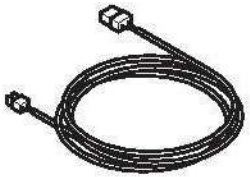


SW230

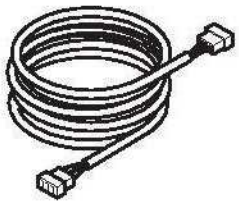
SW229



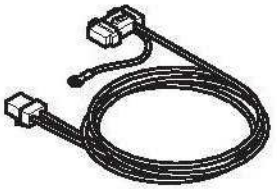
SW231



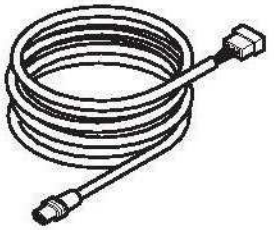
SW232



SW233



SW234

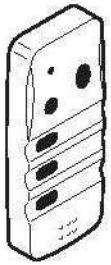


SW236

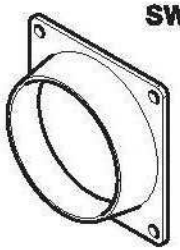
SW237

SW238

SW239



SW240



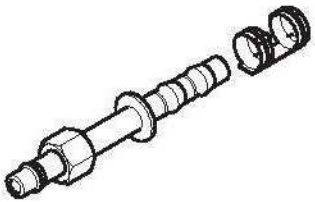
SW241

SW253

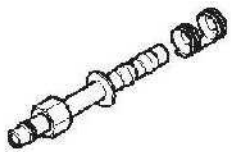
SW257

SW254

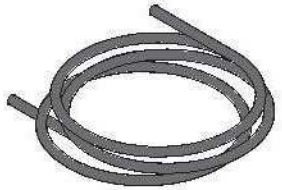
SW256



SW255



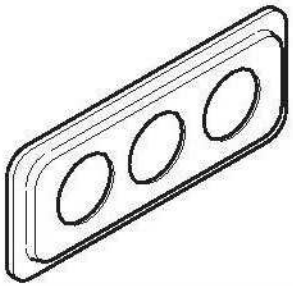
SW168



SW166

SW167

SW235



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SLEEPING WELL ARCTIC PLUS 12V - SW175 - SET DI MONTAGGIO - MOUNTING KITS SPARE PARTS

Parts Breakdown

Part Number	Description
SW112	Air Vent
SW114	Comm Cable between Splitter and Condenser Unit
SW146	Manostat
SW152	Diffuser Plastic Cover
SW153	Evaporator Plastic Cover
SW156	Anti-Icing Thermostat
SW159	Fan
SW166 – Use BT8-8606	G6 Hose (MT) – 13’ 1 ½” (4m)
SW167 – Use BT8-8608	G8 Hose (MT) – 22’ 11 ½” (7m)
SW168	Insulation Gasket (MT) – 2 pcs 6’ 6 ¾” (2m)/ea = Total 13’ 1 ½” (4m)
SW169	Air Grid
SW175	Mounting Set
SW176	Evaporator
SW212	Compressor Module 12v BD 350 GH
SW226	Compressor Assembly Complete Board New SW 2000 Arctic
SW227	BD350GH 12V 102Z3018 - Twin Compressor with Hoses
SW228	Compressor Assembly Complete Closing Carter
SW229	PCB for AC IndelB NA
SW230	Front Control Panel with Label - SW 2000 Arctic
SW231	Probe Connection Cable L=3000 SW 2000 Arctic Plus
SW232	Evaporator Connection Cable L=5 MT New
SW233	Power Supply Cable L=5 MT 10 MMQ
SW234	Condenser Power Supply Cable L=5 MT
SW235	SW 2000 Arctic Evaporator Unit Plastic Frame
SW236	Capillary Pipe with Filter New SW 2000 Arctic – 9’ 10” (3m)
SW237	Flexible Ventilation Pipe IMECGH00011AA
SW238	Iron Grid Fan 120x120 MOD. 120
SW239	Remote Control SW 2000 Arctic Version 2011
SW240	Condenser Plastic Conveyor SW 2000 Arctic
SW241	Metallic Plastic Tie IMECDD0038AA
SW242	Black Plastic G120 Grid
SW243	Fan D12A04SWSZ00 12V 6.3x0.8
SW244	Re-Programmed Application Module with Clamp
SW245	Compressor Assembly Internal Cable New SW 2000 Arctic
SW246	Power Supply Cable L=5 MT 4 MMQ
SW247	Battery Condenser Parallel Flow New SW 2000 Arctic
SW248	Complete Conveyor New SW 2000 Arctic
SW249	Axial Fan D305 with Superseal Connector
SW250	Condensing Unit New SW 2000 Arctic
SW251	Evaporator Unit New SW 2000 Arctic
SW252	Compressor Unit New SW 2000 Arctic
SW253 – Use BT0-5027	Ftg AOC FOR 90° 8H 6F
SW254 – Use BT0-5023	Ftg AOC FOR 90° 6H 6F
SW255 – Use BT0-5000	Ftg AOC FOR STR 6H 6F
SW256 – Use BT0-5001	Ftg AOC FOR STR 8H 8F
SW257 – Use BT0-5024	Ftg AOC FOR 90° 8H 8F